# ENVIRONMENTAL NE WS



Newsletter of the N.H. Department of Environmental Services

November/December 2005

#### Governor's Message

#### 2005 Governor's P2 Award

New Hampshire's environment is one of our key economic drivers, and preserving it for the future is critical to our continued economic growth. Luckily in New Hampshire many businesses have not only recognized the



Governor Lynch

importance of our environment to the economy, they are committed to doing their share to help preserve it.

At a recent Governor and Council meeting, I had the pleasure of honoring the winners of the 11<sup>th</sup> Annual New Hampshire Governor's Award for Pollution Prevention. This award, established in 1994, recognizes New Hampshire

businesses and organizations that have successfully reduced or eliminated wastes at the source.

This year's winners, Rockwell Automation of Manchester and the Rubber Group of Somersworth, have recognized that reducing pollution is good for our state and good for their companies.

Rockwell Automation manufactures safety equipment,

Governor's Award, continued on page 8

## 2005 Ozone Summary for New Hampshire

New Hampshire experienced a slight decrease in the number of poor air quality days this summer. Based on preliminary data collected by DES between May and September, there were three days when ozone monitors recorded concentrations above healthy levels, compared to four unhealthy days in 2004 and an average of nine unhealthy ozone days per year since 1983.

To find out current ozone and small particle pollution (PM 2.5) levels and daily air quality forecasts, visit the DES website at www.airquality.nh.gov. Even though ozone season is over, DES monitors air quality at numerous locations throughout the state and forecasts air quality year round.



High flows at Highland Lake during October's flooding.

#### Commissioner's Column

#### Hats off to the Dam Bureau

Maintaining the proper functioning of dams across New Hampshire is a critical responsibility of DES. In early October, we were reminded once again of this pivotal role when parts of the state were deluged by as much as 10 inches of rain in one day, bringing a number of dams to their limits, but thankfully not failure.

Our Dam Bureau was quick to respond, inspecting all dams across the state of highest concern. Jim Gallagher, Dam Bureau Administrator, said that there were no catastrophic failures of any dams in the state, although several over-topped and suffered some damage, and the flashboards at the top of others released – as they are designed to do – and directed overflowing water into spillways. Dam Bureau staff were on emergency duty for over a tenday period.

The Dam Safety and Maintenance crews were primarily concerned that the saturated ground could cause the earth embankments around dams to erode and water would push out the sides of dams. During the rain event, the bureau's dam operators and members of the Dam Maintenance Crew worked night and day operating the stateowned dams to reduce flooding in the lakes and down-

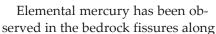
Dam Bureau, continued on page 8

## Former Chloro-Alkali facility added to National Priority List

n September 14, EPA added the former Chloro-Alkali facility (also known as Crown Vantage) in Berlin, to the National Priority List, which means that the site became the twentieth Superfund site in the state.

The 4.6-acre facility operated from 1898 to the 1960s. The chlor-alkali process at the Berlin facility used mercury cells to produce chlorine gas. Since 1997,

various site investigations have determined that there is soil contaminated with mercury at concentrations significantly above DES's soil standards. Site groundwater quality also exceeds the Ambient Groundwater Quality Standards for mercury, lead, arsenic, chloroform, and dichloromethane (methylene chloride).





Former Chloro-Alkali facility in Berlin.

the Androscoggin River located directly adjacent to the facility. The Androscoggin River is currently designated "catch-and-release" from Berlin downstream to the Maine border. Fishermen who disregard this designation and eat fish caught in the river could be exposed to elevated levels of mercury. Seven rare bird species are known to live or feed close to the Androscoggin River near the site and could therefore be harmed by the contaminants being released there. These include the bald eagle, peregrine falcon, common nighthawk, northern harrier, osprey, common loon and Cooper's hawk.

Seven mercury removal efforts have occurred since 1999. During the fall of 1999, approximately 30 pounds of elemental mercury was recovered from the fissures in the bedrock along the river and 100 pounds of mercury-impacted sediment and debris was recovered from the river and riverbank. Removal actions occurring annually since 1999 have yielded approximately one to three

Chloro-Alkali, continued on page 8

#### DES rules redesignation update

ES has been notified by the Office of Legislative Services (OLS) that its proposal to redesignate its rules has been approved. (See Environmental News, September/October 2005). Based on this, DES has begun the process of moving rules from subtitles Env-Wm and Env-Ws into the new subtitles.

The first two sets of rules to be redesignated are those covering solid waste and public bathing places. When the Solid Waste Rules (previously Env-Wm 101-102, Env-Wm 201-205, Env-Wm 301-316, and Env-Wm 2100-3700) are readopted in October, they will be Env-Sw 100-2000. When the public bathing places rules (Env-Ws 1101-1105) are readopted later this fall, they will be Env-Wq 1100.

The process of redesignating all of the rules in Env-Wm and Env-Ws is expected to take two to three years to complete. A list of rules that have been redesignated and a cross-reference chart showing the previous and new designations is available by clicking on "Redesignation" on the DES web site at www.des.nh.gov/Rulemaking.

#### Millipore receives unique P2 award

t the Pollution Prevention A Conference in Durham, the DES Pollution Prevention Program presented Millipore with the "Excellence in Pollution Prevention Award" for its continuing commitment to environmental protection. Millipore's New Hampshire facility, located in Jaffrey, manufactures filtration devices that are used for high technology and high purity applications in pharmaceutical, biotechnology and life science industries.

The company won the New Hampshire Governor's Award for Pollution Prevention in 1999, 2001 and 2004, and honorable mentions in 2000 and 2002. The Excellence in Pollution Prevention Award recognizes Millipore's over-arching mission to protect the environment in all aspects of its business practices.

Millipore is also an ISO 14001-certified company, demonstrating its global commitment to the environment. For more on the DES P2 Program, please go to www.des.nh.gov/nhppp.

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## DES, agencies coordinate on homeland security

Cince the late 1980s, DES has established partnerships with federal and state agencies, local police and fire departments, hospitals, laboratories and other private organizations to ensure that in times of natural or manmade emergencies, public health and environmental issues are fully addressed in context with the overall local, state, and regional response. As demonstrated by Hurricane Katrina and the recent in-state floods, it is imperative that protective and/or restorative measures be implemented quickly and within the matrix of an overall response plan to best protect people and restore their quality of life following such an event.

As an outgrowth of the 9/11 attacks, the Advisory Council on Emergency Preparedness and Security (ACEPS) was formed to focus the resources of organizations as diverse as the National Guard and the NH Board of Nursing, the Bureau of Emergency Management and the State Veterinarian, toward a common goal of protecting the lives and livelihoods of our citizens. The federal Department of Homeland Security has declared as

recently as August 2005 that New Hampshire's current level of preparedness has set it apart as an example for other states to follow.

As part of this comprehensive preparedness effort, ACEPS members have drafted a new statewide Emergency Operations Plan (EOP), and the construction of a new, state-of-the-art Emergency Operations Center (EOC) is now underway in Concord. DES is committed to contributing its resources in times of need to fulfill six specific "emergency support functions" detailed in the new EOP, including assessing damage to the environment and public health, effecting repairs of bridges and rights-of-way, supporting fire suppression activities, aiding local health and medical officials, mitigation of hazardous materials incidents, protection and/or restoration of food and water supplies, and containment of animal-borne communicable diseases.

DES is currently initiating the process of certifying the agency under the National Incident Management System (NIMS) and the Incident Com-

> mand System (ICS) to further ensure that New Hampshire residents are provided with the best emergency services available, and that recovery from a disaster proceeds in a timely and efficient manner. Through these initiatives, in conjunction with the partnerships forged among ACEPS members

and alliances formalized with regional and national organizations, New Hampshire has positioned itself as a state ready to respond to natural or manmade forces that may threaten our health, safety and security.

For further details, please contact Tim Drew, Administrator, DES Public Information and Permitting, at (603) 271-3306 or tdrew@des.state.nh.us.



#### New response boat launched

Portsmouth Harbor, the winding, island-filled Piscataqua River, and the biologically rich ecosystem of Great Bay require constant vigilance and preparedness by emergency responders, including DES's oil spill response crew. In early October, DES took delivery of its newest response boat, DES 01 a 35-foot vessel made by Eastern Boats, Inc. of Milton, N.H. and powered by a 355 hp Cummins diesel engine.

Few people realize the flotilla of boats, skimmers, barges and catamarans that stand at the ready year-round to respond to oil spills along the coast. The DES 01, which replaces the Admiral Vose II, is a multi-purpose vessel that can be used as a floating command post, an observation platform, or to deploy and maintain spill response equipment. Its home base will be Great Bay Marina.



Ray Burton and Commissioner tour North Country. DES Commissioner Mike Nolin (left) and Executive Councilor Ray Burton (center) listen to Elise Lawson, from Watershed to Wildlife, about plans for the John's River Dam project. The visit was part of a North Country tour on September 26 and 27.

#### Restoring Bog Brook

by Eric Williams, Supervisor, Watershed Assistance Section

A North Country river restoration project shows that good water quality and the economic value of riparian land go hand in hand. A barn was saved while a river returned to a more natural state.

Rivers are hungry for sediment. Each river has a certain volume of sediment, or bed-load, that it likes to carry, and when that bed-load is increased or decreased, the river will react in ways that don't always mesh with human and aquatic life needs. A sediment-starved stream will gouge out the river bed and erode riverbanks. An overloaded stream will slow down and spread out, smothering deep channels and raising water temperature. Sometimes, changes in a river's watershed will affect the river's behavior for decades, or even centuries.

Such was the case on Bog Brook in North Stratford, where removal of riparian vegetation several decades ago made a riverbank at a sharp bend in the river more susceptible to erosion. The resulting increase in bed-load smothered fish habitat and the stream began to widen in response. A large sediment delta appeared in the Connecticut River at the confluence of Bog Brook. The landowner adjacent to the eroding river bend, Tom Glidden, worked with the town of Stratford and a consultant, Sean Sweeney of Horizons Engineering, to secure a Watershed Restoration Grant from DES for a comprehensive stream morphology assessment, design plan, and reconstruction of the river to a more natural condition. Construction was completed in the spring of 2004. After a year and a half, the newly restored stream channel is functioning beautifully, riverbank vegetation is holding the soil in place, and the river no longer migrates unnaturally.

At Bog Brook, the removal of vegetation increased sediment load and altered the width, depth, and velocity of the brook, resulting in further bank erosion and channel migration.

## Governor commends Commisioner for conservation effort



Overnor Lynch recently presented Commissioner Nolin with a Commendation for his assistance in obtaining grant funding for the preservation of the Woodmont

Orchard in Hollis. The Commissioner was instrumental in obtaining a \$500,000 grant from the Farm Ranch Protection Program through the U.S. Department of Agriculture. With the help of the grant, the town of Hollis will purchase the 181-acre orchard.



"Before" view shows eroding banks threatening barn and fields on Glidden's property in North Stratford.



"After" view of brook with the new channel, rock veins, willows and barn. After a year and a half, the newly restored stream channel is functioning beautifully, riverbank vegetation is holding the soil in place, and the river no longer migrates unnaturally.

In the past, hard bank armoring, or rip-rapping, was used to address bank erosion problems. Since armoring treats only a symptom rather than the cause of bank erosion, it is often ineffective over the long term.

Natural stream channel design uses a stable "reference" stream to determine the proper slope, width, depth, and geometry to which to restore the impaired stream.

"We experienced three, serious high water events in 2005 with two of those overflowing the bank and flooding my field," said Tom Glidden, the landowner. "I'm thoroughly convinced that my barn and most of my field would be gone now if the project hadn't been completed last year."

The Bog Brook restoration project shows that habitat restoration can be achieved using natural stream design techniques. For Bog Brook, a comprehensive analysis of existing conditions compared to reference conditions resulted in a restoration plan that is likely to last much longer than traditional bank stabilization techniques, and keep 480 tons per year of sediment from the brook.

The Bog Brook restoration project resulted in better stream ecology and better landowner economy.

# reaches milestone

he New Hampshire Geological ■ Survey (NHGS) reached an important milestone by entering data from a well completion report that represented the 100,000th record added to the state's Water Well Inventory database! This was a monumental accomplishment, eliminating a back log of several thousand well reports that had persisted for several years. NHGS staff are to be congratulated for their diligent work to manage the back log, and to keep up with the continuous influx of new reports that must be entered and filed.

The well database is an important source of information about the state's ground water resources. Each well report contains location information, as well as depth, yield, and geological information col-

lected by the driller. State law requires that a well record be completed for all new wells drilled in the state, and submitted to the state's Water Well Board. The Board shares these well records with NHGS, which populates, performs quality control, and actively manages the electronic well database. In addition, the NHGS uses remote sensing and computer technology to assign accurate spatial locations to the wells so that reported data can be integrated with a geographic information system (GIS). These data provide valuable information to drillers, consultants, and the public at large, and also provide a wealth of subsurface information that assists with geological studies and mapping conducted in the state. Many neighboring states are envious of the quality and number of well reports that are available in New Hampshire.

For more information abut the Water Well Inventory, please contact David Wunsch, (603) 271-6482.

## State well database Conference promotes biodiesel as energy alternative

Interest in transportation alternatives and energy security throughout the LU.S. continues to grow and was evident at a recent conference held in Gilford. The "Advancing the Choice: Energy Security, Economic Security, and Climate Change" conference was organized by the Granite State Clean Cities Coalition and WasteCap, a resource conservation program of the BIA, to discuss ways to reduce petroleum use. Curbing use of petroleum will increase the nation's energy security, reduce pollution, and provide stimulus for the U.S. economy.

Conference presentations touched on all aspects of petroleum reduction strategies from conservation efforts to alternative fuels and advanced technologies such as hybrid vehicles and geothermal heat.

The conference closed with a "biodiesel from waste grease" demonstration. Biodiesel is a domestic, renewable fuel for diesel engines made from natural

oils, such as soybean oil, or from waste grease. It is usually blended with petroleum diesel at a ratio of 20 percent biodiesel to 80 percent petroleum diesel (B20), and can be used in most diesel vehicles with little or no modifications.

Biodiesel has been used in New Hampshire for more than five vears, most notably by the city of Keene, Keene



The conference began with "Beyond a Billion," an event celebrating the displacement of more than one billion gallons of petroleum through the efforts of 88 Clean Cities coalitions nationwide. Marking the occasion are (from left to right) John Rymes, owner of a heavy duty biodiesel truck; Mike Scarpino, U.S. Department of Energy Clean Cities Program Manager; Robert Varney, EPA New England Administrator; Becky Ohler, DES Clean Cities Coordinator; and Alice Chamberlin, Policy Advisor for Governor Lynch.

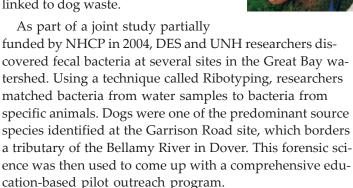
State College and Cranmore Mountain Ski Resort These successful New Hampshire experiences have helped dispel some common myths about biodiesel, including that it cannot be used in cold climates. This fuel has become increasingly more available in New Hampshire with nine retail stations currently offering a biodiesel blend for diesel vehicles. Several home heating oil companies also offer a biodiesel blend to their customers.

For more information transportation alternatives, visit the Granite State Clean Cities Coalition website at www.granitestatecleancities.org, or contact Becky Ohler, Granite State Clean Cities Coordinator, at (603) 271-6749 or rohler@des.state.nh.us.

### You CAN teach an old dog new tricks!

### Outreach project succeeds in educating pet owners

This summer was the kick-off of the Pet Waste Outreach Program, a collaborative effort between the DES Watershed Assistance and N.H. Coastal Program (NHCP) staffs, the city of Dover, and volunteer neighborhood residents to educate dog owners on the value of cleaning up pet waste. The program targeted the Garrison Road neighborhood, where elevated bacteria levels found in the wtershed by UNH and DES researchers were linked to dog waste.



The goal of the outreach program was to reduce bacteria from dog waste in the river by changing residents behavior to pick up after their dogs and dispose of the pet waste properly. It was important that the community have a key role in creating an outreach program. A Pet Waste Com-



mittee, a group of volunteer neighborhood residents, city officials, and DES staff, was formed. Focus groups were held to identify barriers and incentives to changing residents' behavior and an outreach plan was created and put into action.

Dog waste turned out to be all the rage in Dover. The summer started with sending out a baseline survey for resident awareness and existing behavior. Over 30 percent of the surveys came back and residents couldn't stop talking about them. Kids were

brought on board with a logo contest, awards ceremony, and stormdrain stenciling event at a local day camp. T-shirts, displays, and a website were created and local media picked up multiple press releases and photos.

Evaluation of the efforts will be made in the spring of 2006 with the mailing of a post survey and additional water quality sampling. However, due to the overwhelming support from the committee and city officials, Dover is presently applying for a NHCP grant to assist with going city-wide with a dog waste outreach program.

For more information, contact Sally Soule, NHCP, ssoule@des.state.nh.us or (603) 559-0032 or Barbara McMillan, Watershed Assistance Section, bmcmillan@des.state.nh.us or (603) 271-7889.

### States team-up to clear hazard from Umbagog

On a cool September day, staff from the Maine Department of Environmental Protection and the Spill Response and Complaint Investigation Section of DES's Waste Management Division joined forces to respond to a report of a propane tank abandoned in Lake Umbagog. The lake straddles the Maine-New Hampshire border, hence the joint response.

Launching from Errol, responders located two 100-pound cylinders on the Maine side of the lake adjacent to a remote camping site operated by the NH Division of Parks and Recreation and near the Rapid River, a premier wild trout fishery. The cylinders both were nearly full; as it turns out, one with propane and one with water. Both tanks were secured and transported by boat to the launch site, and transferred to vehicles for ultimate disposal. Maine personnel handled the tank containing propane and DES staff took the other tank for disposal as scrap. The abandoned tank containing a highly flammable gas under high pressure represented a serious fire and explosion danger to campers and the forest of this remote area. The successful and safe removal of the tanks alleviated this threat.

DES's Mike Galuszka transports cylinders found on Lake Umbagog.



## Protecting sensitive waters

## No Discharge Status declared for coastal New Hampshire

By Alicia Carlson, DES Watershed Management Bureau

he Clean Vessel Act Program of L DES applied to the US Environmental Protection Agency in May 2005 for No Discharge Status for all New Hampshire coastal waters. On September 27, New Hampshire coastal waters were designated as a No Discharge Area for boat sewage.

Federal law allows for overboard discharge of boat sewage that is first treated by an on-board marine sanitation device (MSD), but prohibits the discharge of untreated boat sewage. This waste must be contained in a holding tank to be later removed at a pumpout or dump station. Pumpout stations service boats with fixed toilets, while dump stations are for portable toilets. New Hampshire's coastal waters are currently serviced by five stationary pumpout stations located at marinas and one mobile pumpout boat that can travel to where the service is required.

The Clean Water Act allows states to prohibit all boat sewage discharges by creating a No Discharge Area if the state can provide evidence that the waters require greater protection than the law provides. DES made a proactive decision to move forward in designating its coastal waters to protect the numerous shellfish beds, beaches, and other recreational opportunities that are available.

Boat sewage discharges are highly concentrated with bacteria and nutrients, and those boats with MSDs may also contain toxic disinfectants such as formaldehyde. All of these pollutants can contribute to unhealthy water for shellfish, other fauna and flora, and unsafe conditions for swimming

and other recreation. By prohibiting the discharge of boat sewage, DES is helping to protect the state's sensitive natural resources.

All inland waters of the state were designated as No Discharge Areas in 1975. There are numerous pumpout and dump stations available on the some of largest lakes in the state, including Lake Winnipesaukee, Lake Winnisquam, Squam Lake and Lake Sunapee.

If you own a boat with a toilet, please do your part to reduce pollution by using pumpout and dump stations. To find a pumpout or dump station near you, visit the DES Clean Vessel Act website at www.des.nh.gov/ wmb/cva.

#### Did you know ...?

id you know that lighting accounts for nearly 20 percent of the electricity used in homes? And, if every household in New Hampshire changed one light to



an Energy Star (compact fluorescent) light, savings would total more than \$3 million in energy costs

each year?! On October 5, people around the state took the Change a Light, Change the World pledge to reduce energy use by replacing one light bulb with an energy efficient one. Bulbs carrying the Energy Star label use one-third the energy of standard bulbs, and last six to 10 times longer.

### Transforming trash to art

by Cathy Coletti, DES Coastal Program

ong ago lost by their owners, a child's torn flip-flop, a pair of foggy eye glasses and a dated cell phone found a new home on a sculpture made out of marine debris.

On a recent Saturday, the DES Coastal Program hosted its first Trashformation event at the Seacoast Science Center in Rye to coincide with International Coastal Cleanup Day. New Hampshire volunteers cleaned up trash and other

marine debris at over 20 sites on the Seacoast. Immediately following the cleanup, artist Kristen Lanzer worked with participants to create a community-built sculpture made out of some of the collected trash. About 50 people dropped off debris or stopped to share a snack and either watch or help Lanzer with the Trashformation. The sculpture also contains cards stating facts about marine debris.



Artist Kristen Lanzer poses with Trashformation sculpture helpers outside of the Seacoast Science Center.

Several dangerous pieces of debris turned up during the cleanup and on the sculpture, including rope, balloons, and six-pack holders. Debris is one of the biggest problems facing marine life, which can affect their ability to move, eat and care for their young. Debris also degrades habitats and poses a risk and eyesore to human beachgoers and boaters.

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such as safety mats, light curtains, and proximity warning devices. The company's switch from methyl ethyl ketone (MEK) to a water-based alternative in the safety mat manufacturing process reduced impacts on the environment, improved worker safety and reduced the possibility of fire within the facility by removing a flammable compound. In addition, Rockwell Automation expects to have annual savings of \$5,373.

The Rubber Group is a manufacturer of custom rubber molded products. Their efforts in water and energy conservation, including purchasing Energy Star equipment to replace existing equipment; going from the traditional fiveday workweek to a four-day week; replacing lighting with energy-efficient lighting; and purchasing thermal blankets to insulate molding areas to minimize heat loss reduced the company's collective energy consumption by 49,200 kilowatts per hour per month and water consumption by 313,366 gallons of water per quarter. The Rubber Group expects to save \$43,746 annually on its energy bills and \$2,684 per year on its water bills.

Wausau Paper of New Hampshire, Inc. in Groveton and Philips Exeter Academy in Exeter received honorable mention awards for their pollution prevention efforts.

I applaud these companies in implementing changes that are both right for the environment and for their bottom line. Rockwell Automation and The Rubber Group join an impressive listing of New Hampshire businesses that have earned the distinction of the Governor's Award for Pollution Prevention by eliminating or reducing wastes at the source. I urge others in industry to contact the New Hampshire Pollution Prevention Program at 271-6460 or www.des.nh.gov/nhppp/ to see how to benefit their own company through pollution prevention.

John Lynch, Governor

Chloro-Alkali continued from page 2

pounds of elemental mercury per event.

Remedial actions have included demolition of the remaining cell house in 1999, installation of a slurry wall on two sides (west and southern boundaries) of the site to inhibit groundwater flow into the cell house area, and capping the site with a synthetic membrane to inhibit rain from percolating into the cell house area. However, water continues to flow from a drainage pipe from the capped area to the river, indicating that groundwater seepage into the capped area is still occurring.

Dam Bureau continued from page 1

stream, while dam engineers and technicians performed dam safety inspections of all 229 state-owned dams outside of Coos County, whose dams were not affected.



Sandbagging precautions at Pillsbury Lake in Webster during recent flooding.

In addition, they performed inspections of privately owned dams under distress as requested by dam owners or as dispatched by the emergency operator.

Over the following week, technical crews set out to perform, as quickly as possible, inspections of the 767 highest hazard dams of the state – again except for Coos County. Dams designated as presenting the highest hazard were inspected first, low hazard dams last.

The DES Dam Bureau regulates more than 3,400 dams across New Hampshire. It operates and maintains 218 dams owned by DES and the NH Fish and Game Department, and is responsible for the repair and reconstruction of all 275 state-owned dams.

The dam staff's diligence and professionalism throughout the year, and prompt and dedicated response to this emergency situation, deserves our utmost thanks and appreciation.

Michael P. Nolin, Commissioner



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